

PAPERS READ.

NOTES ON THE GENERA OF AUSTRALIAN FISHES.

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PART I.

(*Notes from the Australian Museum*).

In the following paper it is our intention to clearly point out the generic distinctions between certain groups of Australian Percoids ; and we wish to call special attention to the fact that, after an exhaustive examination of over fifty examples each of *Lates calcarifer* and *Lates colonorum*, we have arrived at the conclusion that these fishes are generically separable, and we propose therefore the name *Percalates* for the southern temperate form. We have also examined a number of small fishes from the Murray near Deniliquin, belonging to Count Castelnau's genera *Murrayia* and *Riverina*, and are fully in accord with Dr. Klunzinger in considering these names synonymous with *Macquaria*, Cuv. & Val., the characters which caused the Count to separate the fishes from that described by the latter authors, and excellently figured by MM. Lesson and Garnot in the "Voyage of the Coquille" pl. xiv. fig. 1, having doubtless been overlooked by the authors of the "Histoire Naturelle des Poissons"; whilst the presence or absence of an extra spine to the first dorsal, or of a few minute, and probably deciduous, palatine teeth cannot be considered as forming a valid reason for separating generically two species so exactly similar in all other characters as *Murrayia guentheri* and *Riverina fluviatilis*. It is worth mentioning that the Australian Museum possesses Castelnau's types of *Murrayia guentheri* and *Dules (Ctenolates) auratus*, both having been obtained from precisely the same locality as our specimens.

We hope at intervals to contribute further papers on the genera of Australian fishes.

Six genera are differentiated in this part, namely, *Perca* (introduced), *Percalates*, *Lates*, *Psammoperca*, *Ctenolates*, and *Macquaria*. Their characteristics are as follows :—

#### Genus PERCA.

*Perca*, sp., Artedi, Genera Piscium, 1738, Gen. 39, Syn. 66, sp. 74; Cuvier, Règne Anim. ; Cuv. & Val., Hist. Nat. des Poiss. 1828, ii. p. 19.

Branchiostegals seven : pseudobranchiæ present. Body oblong-ovate, and somewhat compressed. Opercle spiniferous : preopercle serrated on the vertical limb, and with denticulations pointing forwards on the lower limb. Teeth villiform on the jaws, vomer, and palatines ; tongue smooth. Two dorsal fins separated at their bases, the first with 13 or 14 spines ; the anal with two. Scales rather small, ctenoid, absent on the upper surface of the head. Pyloric appendages few.

#### Genus PERCALATES.

*Percalates*, gen. nov.

Branchiostegals six : pseudobranchiæ present. Body oblong-ovate, and somewhat compressed. Opercle with two spines : preopercle serrated on the vertical limb, denticulated on the angle and lower limb : preorbital and post-temporal bones serrated. Teeth villiform on the jaws, vomer, and palatines ; tongue smooth. One dorsal fin deeply notched, with 9 spines : the anal with three. Scales moderate, ctenoid, absent on the upper surface of the head, and on the maxilla. Pyloric appendages in small numbers.

Genus founded on *Lates colonorum*, Günth.

#### Genus LATES.

*Lates*, Cuv. & Val., Hist. Nat. des Poiss. 1828, ii. p. 88.

*Pseudolates*, Alleyne & Macleay, Proc. Linn. Soc. N.S. Wales, i., p. 262, (1875).

Branchiostegals seven: pseudobranchiæ rudimentary. Body oblong, and somewhat compressed. Opercle with a small spine: preopercle serrated on the vertical limb, denticulated on the angle and lower limb. Teeth villiform on the jaws, vomer, and palatines; tongue rough. Two dorsal fins contiguous at their bases, the first with 7 or 8 spines: the anal with three. Scales moderate, finely ctenoid, extended on the head to immediately behind the eyes. Pyloric appendages few.

Genus PSAMMOPERCA.

*Psammoperca*, Richards., Voy. Erebus and Terror, Fishes, p. 115.

*Cnidon*, Müll. and Trosch., Hor. Ichth., Hft. iii., p. 21.

Branchiostegals seven: pseudobranchiæ absent. Body oblong, and somewhat compressed. Opercle with a small spine: preopercle serrated on the vertical limb, and with a strong spine at the angle; lower limb entire. Teeth granular on the jaws, vomer, and palatines; tongue smooth. One dorsal fin deeply notched, with 8 spines: the anal with three. Scales moderate, ctenoid, covering the upper surface of the head to the snout: small scales on maxilla.

Genus CTENOLATES.

*Ctenolates*, Günth., Proc. Zool. Soc. 1871, p. 320.

Branchiostegals seven: pseudobranchiæ present. Body oblong-ovate, and somewhat compressed. Opercle with two spines, the lower of which is frequently sub-divided into two or more points: preopercle serrated on the vertical limb; angle and lower limb with patches of coarser denticles. Teeth villiform on jaws, vomer, and palatines; tongue smooth. One dorsal fin, moderately notched, with 10 spines: the anal with three. Scales small, ctenoid, present on the occiput.

Genus MACQUARIA.

*Macquaria*, Cuv. and Val., Hist. Nat. des Poiss. 1828, v. p. 377.

*Murrayia*, Casteln., Proc. Zool. Soc. Vict. 1872, i. p. 61.

*Riverina*, Casteln., l.c., p. 64.

Branchiostegals six: pseudobranchiæ present. Body oblong-ovate, and somewhat compressed. Head with distinct muciferous channels. Opercle with two spines, either or both of which may be sub-divided into two or more points: edges of sub- and interopercles finely serrated, preopercle serrated on the vertical limb; angle and lower limb with patches of coarser denticles. Teeth villiform on the jaws and vomer; palatines with a minute anterior patch; tongue smooth. One dorsal fin, moderately notched, with 11 or 12 spines: the anal with three. Scales moderate, ctenoid, present on the occiput. Bases of vertical fins scaly. Pyloric appendages in small numbers.